

# **DIGITAL AC WATTMETER BASED MICROCONTROLLER ATMEGA8**

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## **ABSTRACT**

The purpose of this final project is to create a hardware Digital AC Wattmeter Based Microcontroller ATmega8, drafting software Digital AC Wattmeter Based Microcontroller ATmega8 and knowing performance Digital AC Wattmeter Based Microcontroller ATmega8.

To realize Wattmeter ATmega8 Microcontroller Based Digital AC are the parts that required is voltage sensor unit, current sensor unit, converter zero and span unit, power factor detector unit, input signal processing unit, the LCD viewer unit and power supply unit which is then combined into a system. The software is designed using C language to program AVR CodeVision as its compiler.

Digital AC Wattmeter Based Microcontroller ATmega8 consists of 3 main circuit input, output circuit and the circuit processing. The input circuit consists of a voltage sensor circuit, current sensors circuit and power factor reader circuit. Processing circuit consists of a series of minimum system ATmega8. The output circuit consists of a series of viewer in the form of LCD text 16 x 2. Software Digital AC Wattmeter Based Microcontroller consists of several parts: a processor definition, Inclusion functions, Definition Port, ADC Mode, Interrupt Mode and Timer mode, the Declaration of variables and functions. Measuring the magnitude of the error percentage is 6.64% for resistive load, 3.39% for capacitive load, and 23.2% for inductive load.